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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,254	10/31/2003	Steven A. Foote	H0003728	2943
128	7590	08/02/2004	EXAMINER	
HONEYWELL INTERNATIONAL INC.			KWOK, HELEN C	
101 COLUMBIA ROAD			ART UNIT	
P O BOX 2245			PAPER NUMBER	
MORRISTOWN, NJ 07962-2245			2856	

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/698,254	<b>Applicant(s)</b> FOOTE ET AL.	
	<b>Examiner</b> Helen C. Kwok	<b>Art Unit</b> 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 1-20 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 3, the phrase "a semiconductor material" should be changed to – the semiconductor material --.

In claim 2, line 2, the word – the – should be inserted before the word "electrode".

In claim 8, line 3, the phrase "a semiconductor material" should be changed to – the semiconductor material --.

In claim 11, line 2, the word – the – should be inserted before the word "electrode".

In claim 12, line 1, the word – the – should be inserted before the word "electrode".

In claim 13, line 4, the phrase "each of the one or more mechanical resonators" is not clear on its meaning if one decides to choose one mechanical resonator. Hence, how can there be "each" resonator then. Please clarify. In line 6, the word – the – should be inserted before the word "electrode". In line 8, the word – the – should be inserted before the word "electrode".

In claim 14, line 2, the word – the – should be inserted before the word "beam".

In claim 16, line 3, the word – the – should be inserted before the word "frame".

In claim 18, line 1, the phrase "each of the one or more mechanical resonators" is not clear on its meaning if one decides to choose one mechanical resonator. Hence, how can there be "each" resonator then. Please clarify.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over either U.S. Patent 5,996,411 (Leonardson et al.) or U.S. Patent 5,948,981 (Woodruff) or U.S. Patent 6,269,698 (Woodruff) or U.S. Patent 6,453,744 (Williams) or U.S. Patent 6,484,578 (Woodruff et al.) in view of U.S. Patent 6,541,369 (Huang et al.).

The references disclose a vibrating beam accelerometer comprising a beam formed of a semiconductor material; an electrode formed of the semiconductor material spaced from the beam; an insulator layer formed on a surface of the beam and the electrode. The only difference between the prior art and the claimed invention is an electrical charge buried in the insulator layer. Huang et al. discloses a device for reducing fixed charges in a semiconductor device comprising, as illustrated in Figures 1-2, insulating layers 104,108 having electrical charge 202 buried in the insulator layer. (See, column 1, line 43 to column 2, line 41). It would have been obvious to a person of

ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of employing an electrical charge buried in the insulator layer as suggested by Huang et al. to the device of the references to provide a low "k" dielectric material to increase insulative properties, yet not creating the charge trap phenomenon at an interface between such low "k" dielectric material and other insulative materials. (See, column 2, lines 42-47 of Huang et al.).

With regards to claims 2-7, the references teach an epitaxial layer and active layer; sacrificial material; insulator material is silicon dioxide and silicon nitride; plurality of beams with plurality of projecting fingers; and a plurality of electrodes with plurality of projecting fingers wherein the beam and electrode fingers are intermeshed; oscillator circuit.

With regards to claims 8-20, the claims are commensurate in scope with claims 1-7 and are rejected for the same reason as set forth above

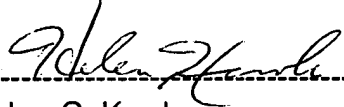
### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2856

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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Helen C. Kwok  
Art Unit 2856

hck  
July 30, 2004